



December 28, 2023

ELECTRONICALLY FILED WITH RCA

Regulatory Commission of Alaska
 701 W. 8th Avenue, Suite 300
 Anchorage, AK 99501

Subject: Tariff Advice No. 425-121; New Retail Service Offering – Community Solar

Commissioners:

The tariff filing described below is transmitted to you for filing in compliance with the Alaska Public Utilities Regulatory Act and Sections 3 AAC 48.200 - 3 AAC 48.420 of the Alaska Administrative Code. With this filing, Chugach Electric Association, Inc. (Chugach) is requesting approval to add a new service in its operating tariff that allows members to voluntarily participate in a community solar project.¹ The following tariff sheets are submitted for approval:

<u>TARIFF SHEET NUMBER</u>		<u>CANCELS SHEET NUMBER</u>		<u>SCHEDULE OR RULE NUMBER</u>
<u>ORIGINAL</u>	<u>REVISED</u>	<u>ORIGINAL</u>	<u>REVISED</u>	
103.1	Original	103.1	---	Standby / Buyback
104	First Revision	104	Original Revision	Community Solar
104.1	Original	104.1	---	Service
104.2	Original	104.2	---	Pilot Program
104.3	Original	104.3	---	
104.4	Original	104.4	---	

This filing will not result in the termination of an existing service, conflict with any other schedule or rate, or in any other way have an adverse impact on customers or the public. Approximately 93,000 retail members 113,000 retail metered locations are impacted by this filing; the City of Seward is not impacted by this filing. Chugach requests approval of the attached tariff sheets by February 12, 2024.

Chugach's community solar program (Program) allows retail members that are interested in solar power generation but who are unable or prefer not to install solar power at their premises, including members who live in multi-tenant buildings, locations lacking suitable solar exposure, members

¹ The service area under Certificate of Public Convenience and Necessity (CPCN) No. 8 is designated as the South District and the service area under CPCN No. 121 is designated as the North District. The tariff sheets for South District members are being submitted to the Regulatory Commission of Alaska (Commission) in Tariff Advice No. 547-8. The proposed tariff sheets contain identical language and pricing in both filings.

who prefer not to assume responsibility for installing and maintaining solar equipment, or members who do not have the financial resources for the initial purchase and installation of their own renewable generation facilities. Under the Program, retail members will be able to subscribe to a portion of the project's output on a voluntary basis.

The community solar project will consist of a 500 kilowatt (kW) solar array that will be built on Chugach-owned land adjacent to the Retherford Substation (Project) located at 800 East 94th Avenue. The Project is small in relative terms, generating electricity equivalent to an average of 0.02 percent of Chugach's retail energy sales annually. The installed capacity of 500 kW is approximately 0.4 percent of Chugach's average 2022 retail demand. If approved, the Program's annual revenue and expense is expected to average \$276,765 (in 2023 dollars, excluding anticipated federal investment tax credit (ITC) payments), which is approximately 0.08 percent of Chugach's projected 2023 annual revenue of 356.1 million.

Summary

Chugach's Program has been developed in response to member interest. Chugach is proposing to add the Program as a new pilot service offering available to members on a voluntary subscription basis. The objective of the Program is to provide a service option that allows interested members the ability to invest in and receive energy from a renewable energy resource that may otherwise be unavailable to them. The Program complements Chugach's other clean energy initiatives, supports Chugach's transition to decrease its reliance on natural gas, and is consistent with Chugach's plan to diversify its generation portfolio to meet established decarbonization goals.

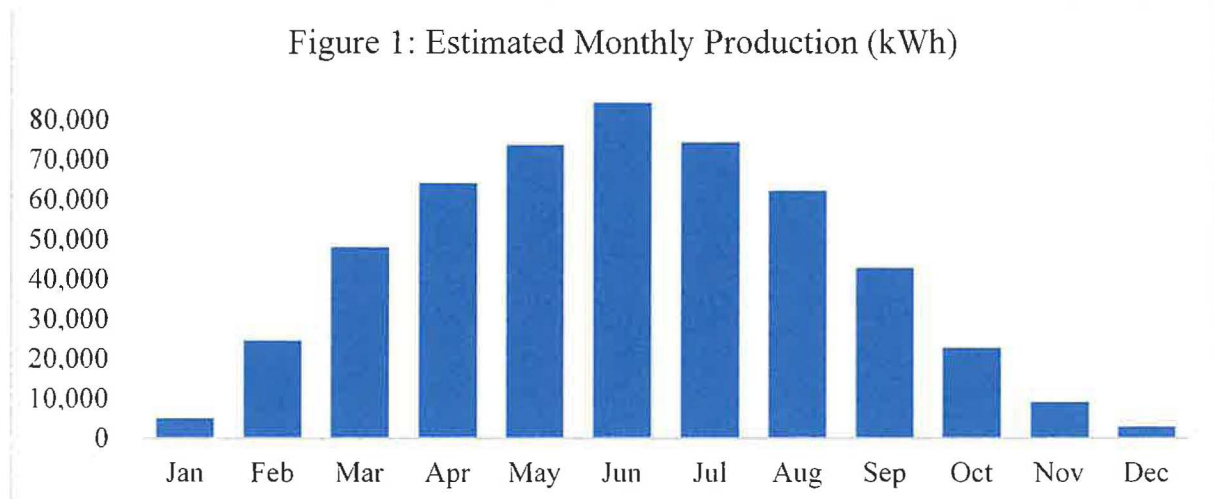
Chugach conducted a member survey to gauge member interest in community solar in November 2023. The survey indicated significant member interest in a community solar program where 77 percent of survey respondents expressed interest in subscribing to the Program, and 25 percent stated they would subscribe even if it resulted in a higher electric bill. Of those members willing to pay a premium, the mean value they are willing to pay is an additional \$24 more each month for community solar service.

Chugach understands that the Program introduces energy sales on Chugach's system at a price higher than Chugach's current avoided cost. Chugach believes, however, that the relatively small size of the Project, the significant level of interest from its membership, and the voluntary nature of the Program justify Chugach's decision to move forward and insulates its broader system from incurring any material negative impacts associated with the Project. Chugach expressly reserves the right on a going forward basis to evaluate new renewable energy offerings (both third-party or Chugach-owned) on an avoided cost basis to ensure no material negative financial impacts are imposed upon its members.

The Community Solar Project

The Project will consist of a 576 kW Direct Current fixed tilt solar photovoltaic array comprised of 1,280 individual panels, with an expected life of 25 years. Each panel is expected to generate

approximately 400 kWh per year, with year one generation expected to be around 525,000 kWh² (see Attachments 2 and 3). Project output will vary seasonally throughout the year. Based on the location and configuration of the Project, the expected monthly production levels during a 12-month calendar year are shown in Figure 1 below:



The Community Solar Program

A. 36-Month Pilot Program

Chugach is proposing to initiate the Program on a pilot basis for a 36-month period with commercial operation beginning on March 1, 2025. Chugach will initiate an outreach program beginning in June 2024, and will begin the initial application period by October 1, 2024. Chugach will continue to accept applications for enrollment through February 14, 2025. The three-year pilot period is being proposed to allow Chugach sufficient time to gather reliable Project cost and generation information and make modifications to the Program's rules and subscription rates, if necessary. Within 60 days after the completion of the pilot period, Chugach will submit a report to the Commission summarizing the pilot period findings and recommendations for Program improvements based on pilot period information.

During the Program's pilot period, Chugach will submit annual filings by April 1 each year updating the 12-month subscription rates to reflect actual Project costs incurred during the prior 12-month calendar year test period, or more frequently on an as-needed basis. Chugach will maintain a balancing account to carry forward any over or under recovery from the prior year's Program revenues and expenses. Chugach also intends to evaluate whether future subscription rate modifications should be made contemporaneously with simplified rate filings.

Chugach will be applying for ITC payments following commercial operation of the Project, as is required by the ITC application program. Based on Chugach's understanding of the ITC program

² The Project is modeled to generate approximately 400 kWh per panel in year one, with an anticipated annual degradation rate of one percent per year thereafter. This results in a mean project output of 355 kWh per panel per year over the 25-year Project life.

and eligibility rules, Chugach expects this Project to receive a direct payment of 30 to 40 percent of the Project's eligible construction costs within the first year of operation. Chugach estimates that a 30 percent ITC payment would reduce the Project cost from \$2.8 million to \$1.9 million, which would correspondingly reduce the Program subscription price by approximately 27 percent. Out of an abundance of caution, Chugach has chosen not to advance Program rates reflecting ITC payments unless and until those payments are received by Chugach. Once received, Chugach will file a tariff update to adjust the subscription price based on those contributions.

A. Program Enrollment

The Program offers subscriptions for up to 20 panels for each Chugach retail member who enrolls in the Program. If Chugach receives initial subscription requests greater than 1,280 panels, a lottery will be used to determine which members will be enrolled. Any remaining applicants will be placed on a wait list in the order they are drawn from the random lottery selection. If panels become available from this Project, applicants will be added in order from the waitlist.

The initial subscription is for a 12-month period and will continue until canceled by the member, subject, however, to the requirement that if a member terminates enrollment during the 12-month commitment period, the member will be assessed an early cancellation fee equal to the lower of the subscription cost for four months or the cost of the remaining months in the subscription period. The primary purpose for the early termination fee is to discourage seasonal enrollments during summer months only.

B. Supporting Cost Information

Supporting cost calculations are included in Exhibits 1 through 3. Exhibit 1 presents total estimated costs for Project construction and interconnection; Exhibit 2(a) through (e) presents Project expenses over the 25 year Project life as follows: Exhibit 2(a) contains the net present value expense summary; Exhibit 2(b) summarizes projected expenses throughout the life of the Project; Exhibit 2(c) provides calculations for the inflation adjusted operating and maintenance expense; Exhibit 2(d) provides the calculated depreciation expense; and Exhibit 2(e) provides the calculated interest expense and margins. Exhibit 3 provides an example for the process to update the pilot period subscription price using actual and projected balancing accounts.

The pilot period subscription price as currently proposed is determined based on estimated Project construction costs and first year operational costs divided by 1,280 panels (see Exhibits 2(a)-2(e)). The initial 12-month pilot period subscription price, on a per panel basis, is estimated to be \$267 per year, or \$22.27 per month. Each panel subscription is expected to receive approximately 400 kWh in the first year of Project operation. The actual monthly energy delivered by the Project as a whole will be applied equally across the total number of panels and applied as an energy credit on Program participant's monthly bills. Energy generated and applied to member bills will be treated in the same manner as net metering customers are treated (see Tariff Sheet Nos. 89.3 to 89.3.3). Chugach will establish a balancing account for the Program to ensure accurate tracking of the costs and revenues associated with the project, which also provides supporting detail in the development of subscription price updates.

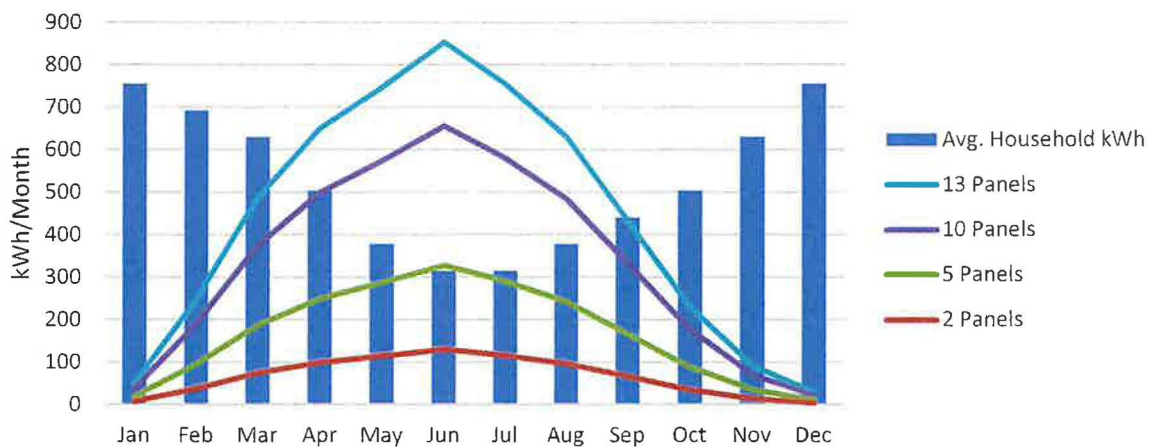
C. Program Billing

Subscribing members will be assessed a monthly charge, equal to their pro-rata share of the 12-month cost per panel and receive an energy credit equivalent to their subscribed share of Project energy output. The member's subscribed share of energy produced from the Project during the billing cycle will be subtracted from the member's energy usage in that same cycle and the member's monthly bill will be calculated based on the net energy amount received.

This approach is consistent with Chugach's existing net-metering tariff (Tariff Sheets Nos. 89.3 to 89.3.3). If Chugach furnishes more energy to a subscribing member than is generated by the member's subscription to the Project during the monthly billing period, Chugach will bill the member for the number of kWh of net electric energy supplied by Chugach at the member's applicable retail rates. Conversely, if the member's subscription to the Project supplied more energy than Chugach supplied to the member during the monthly billing period, Chugach will credit the member's account with a dollar amount derived by multiplying the kWh of net electric energy (i.e., energy generated by the member's subscription to the Project less the member's usage) by the non-firm buyback power rate contained on Tariff Sheet No. 97. Dollar amounts credited to the account of a subscribing member shall be used to reduce amounts owed by that member in subsequent monthly billing periods. Dollar amounts credited do not expire or otherwise revert to Chugach. Unused credits will be paid to the consumer in the event electric service is terminated.

Figure 2 below shows the average residential kWh energy used by month overlaid with the anticipated energy production of two, five, ten and fifteen Project panels. Actual solar energy production will vary based on the final design, weather, and other factors. Based on average residential member usage, a participating residential member would receive all energy from renewable sources with a subscription of thirteen panels when including Chugach's existing hydro and wind generation resources.

Figure 2: Monthly Household Load and Energy Production from Solar Panels



D. Structure of Rate Recovery

Chugach has structured the Program such that the Project costs are included in Chugach's base rate retail revenue requirement and revenues generated through the sale of subscriptions will be applied as an offset to reduce the retail revenue requirement. Structured this way, the Project is backstopped by all retail customers on the system throughout the 25 year life of the Project. However, Chugach will establish a separate balancing account for the Project for cost tracking and subscription pricing purposes.

During periods when subscribership is less than 100 percent, the unsubscribed energy from the Project will be used to meet Chugach's retail system energy requirements and the unsubscribed share of Project costs will be included in Chugach's retail revenue requirement. Based on the average annual Project cost estimate of \$276,765 (excluding the ITC), in a period without Program subscribers this amount would be recovered through base rates which would result in a \$0.10 increase (0.1 percent) on an average Residential monthly bill. With the ITC, and revenues received from the sale of Program subscriptions, the estimated bill impacts will be reduced.

E. Renewable Energy Certificates

During the pilot period, Program participants will retain the rights to claim their portion of RECs related to the Project's generation of renewable electric energy. Rights to claim RECs associated with non-subscribed portions of Project output will be retained by Chugach. Chugach will use information gathered during the Program's pilot period to evaluate whether modification to how RECs are handled would be appropriate going forward on a permanent basis.

Conclusion

The Program provides Chugach members new choices to add solar energy to their electric service on a voluntary basis. Members have been requesting more renewable and clean energy sources to reduce their carbon footprint and reliance on natural gas. As Chugach works to add more large-scale clean energy to its generation mix, this Program compliments those efforts by providing members an option to augment their household or business generation mix with solar energy. Chugach has structured the Program to minimize risk to Association ratepayers while at the same time providing an additional service option to residential members.

Description of Tariff Changes

The Program is described on the attached new tariff sheets, which will be added to Chugach's tariff and available to Chugach's members as described therein, following Commission approval.

Tariff Sheets 103.1: The text formerly located on tariff sheet number 104 is now contained on this new tariff sheet.

Tariff Sheets 104: Items moved from this sheet are now located on sheet number 103.1. This sheet now presents text establishing Chugach's Community Solar Service.

Tariff Sheets 104.1 – 104.4: New tariff sheets to contain continued text establishing Chugach's Community Solar Service.

Supporting Exhibit and Attachments

Attachment 1 contains the Board Resolution authorizing Chugach to spend up to \$2.8 million to complete the Project.

Attachment 2 presents the annual energy production estimates over the 25-year Project life at delivery and on a per panel basis.

Attachment 3 contains the results of the Helioscope sun-shade analysis based on the Project location and panel configuration.

Exhibit 1 presents the Project construction and interconnection total estimated cost.

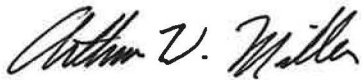
Exhibits 2(a) – (e) present the Project expenses over the 25 year project life as follows: Exhibit 2(a) contains the net present value expense summary; Exhibit 2(b) shows the expense detail for years 1 through 25; Exhibit 2(c) provides calculations for the inflation adjusted operating and maintenance expense; Exhibit 2(d) provides the calculated depreciation expense; and Exhibit 2(e) provides the calculated interest expense and margins.

Exhibit 3 provides an example for the process to update the pilot period subscription price using actual and projected balancing accounts.

Please contact Sean Skaling, Manager of Business and Sustainable Program Development at (907) 762-4192 or sean_skaling@chugachelectric.com and Jean Kornmuller at (907) 762-4184 or jean_kornmuller@chugachelectric.com if you have questions or additional information is needed.

Sincerely,

CHUGACH ELECTRIC ASSOCIATION, INC.



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Chief Executive Officer
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Attachments

cc: Kat Sorenson, Seward City Manager, City of Seward (electronically)

RCA No. 121

1st

Sheet No. 103.1



Canceling

Original

Sheet No. 103.1

Chugach Electric Association, Inc.

**POST ACQUISITION PURCHASE AND SALES RATES FOR QUALIFIED COGENERATION, N
SMALL POWER PRODUCTION, AND STANDBY/BUYBACK FACILITIES (CONTINUED) N**

Conditions:

The qualifying facility will be required to enter into a written Special Contract with Chugach prior to interconnection of Chugach and qualifying facilities. This Special Contract shall contain all applicable terms and conditions which must be met and complied with by the qualifying facility. The Special Contract will be subject to the approval of the Regulatory Commission of Alaska.

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L- Moved from Tariff Sheet No. 104

RCA No. 1211st RevisionSheet No. 104CancelingOriginalSheet No. 104

Chugach Electric Association, Inc.

COMMUNITY SOLAR SERVICE PRICING PILOT

L,N

Chugach retail members may begin taking service under the Community Solar Service Pricing Pilot beginning with the March 2025 monthly billing period. The pilot period extends for a 36-month period ending February 29, 2028. Community Solar Service Pricing Pilot is available to retail members for all member service classes.

This service offering is available, on a voluntary basis, through a 12-month subscription. The 12-month subscription price offering is designed to distribute the project costs equitably across the life of the Community Solar facility, and to reduce project administration costs.

There are a total of 1,280 solar panels available for member subscriptions under the Community Solar Service pricing pilot. Members electing to enroll in the service will submit a subscription application form and may request up to 20 panels per meter. In year one of the pilot period, applications for subscriptions will be accepted from October 1, 2024 through February 14, 2025. If Chugach receives subscriptions totaling more than 1,280 panels, a lottery will be used to determine which members are enrolled in the Community Solar Service Pricing Pilot. Any remaining applicants will be placed on a wait list in the order they are drawn from the random lottery selection. As panels become available for new subscriptions, the applicants on the wait list will be offered enrollment in the order of the wait list. After the initial 12-month subscription period, Chugach will submit annual filings by April 1 of each year updating the 12-month subscription rates to reflect actual Community Solar Service Pricing Pilot project costs incurred during the prior 12-month calendar year test period with any changes to take effect May 15 of each year.

On a monthly basis, the actual energy produced by the Community Solar facility will be applied equally across the total number of panels to determine the kilowatt hour (kWh) production share to be allocated to each panel. The energy produced by unsubscribed panels will be used by Chugach in the provision of electricity to its retail members.

Based on the number of panels in each member's subscription, the production share will be applied as a credit on program participant's monthly bills. Energy generated and applied to member bills will be treated in the same manner as net metering customers are treated (Sheets 88 to 90).

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L- Moved to Tariff Sheet No. 103.1

RCA No. 121OriginalSheet No. 104.1CancelingSheet No. 104.1

Chugach Electric Association, Inc.

COMMUNITY SOLAR SERVICE PRICING PILOT (Continued)

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Purpose:

Chugach is proposing to initiate the Community Solar Service on a pilot basis for a 36-month period to compile information including the final project construction cost, receipt of federal tax credits, operating and maintenance expenses, member interest, renewable energy certificate treatment, and to assess modifications that may improve the subscription and pricing program. The proposed pilot period is expected to provide sufficient time to capture cost information and compile feedback to improve the service offering.

Pilot Period:

The Community Solar Service Pricing Pilot shall run from March 1, 2025 – February 29, 2028 (Pilot Period).

Pilot Reporting:

Within 60 days following expiration of the Pilot Period, Chugach will submit a report to the Regulatory Commission of Alaska detailing the results of the Community Solar Service Pricing Pilot and requesting any necessary modifications. The report will analyze:

1. Member enrollment information throughout the Pilot Period;
2. Subscription benefits compared to costs (subscription amount paid net of energy buyback vs. energy received);
3. Project performance statistics;
4. Program costs;
5. Unsubscribed energy used to meet retail system energy requirements.

The report will provide recommendations for continuation, abandonment, or modification of the Community Solar Service Pricing Pilot and may include a recommendation for a permanent Community Solar Service tariff offering. Additionally, the report will also include recommendations for the treatment of renewable energy credits associated with the Community Solar facility. Chugach may use questionnaires to gather program feedback. All customer specific data obtained by Chugach through the Community Solar Pricing Pilot shall be held confidentially, to the extent allowed by law and regulation, and any public reporting should not reveal names or locations, unless ordered to provide such data by an appropriate authority.

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RCA No. 121OriginalSheet No. 104.2CancelingSheet No. 104.2

Chugach Electric Association, Inc.

COMMUNITY SOLAR SERVICE PRICING PILOT (Continued)

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Monthly Billing:

Monthly Charge per Panel:

\$ 22.67

The pilot period price for the initial 12-month subscription period is based on the estimated project expense levels for the subscription period. Chugach may submit a filing to adjust the subscription price as necessary. The pilot period price for the next 12-month subscription period will be based on combined actual and estimated project expense and recovery levels. Chugach will use actual and projected period balancing accounts to track recovery and expense amounts and will adjust the subscription price as needed to recover no more, or no less than, the actual project costs. Chugach will submit annual filings by April 1 each year, or more frequently as needed, to update the subscription charge to reflect actual project costs incurred during the prior 12-month calendar year test period.

Electric bills for members enrolled in the Community Solar Service Pricing Pilot shall be computed in accordance with all applicable retail service rates contained in this operating tariff, with electric energy (kWh) calculated as follows:

1. If the members consumption of energy is greater than the members subscribed share of energy produced by the Community Solar facility during the monthly billing period, Chugach shall bill the consumer for the kWh of net electric energy consumption at the applicable retail rates contained in the operating tariff; or,
2. If the member's subscribed share of energy produced by the Community Solar facility is greater than the member's energy consumption during the monthly billing period, Chugach shall credit the member's account with an amount derived by multiplying the kWh of net subscribed energy produced by the non-firm buyback power rate contained on Tariff Sheet No. 103; or
3. If the member's account participates in the net metering program and is also enrolled in the Community Solar Service Pricing Pilot, the member's subscribed share of kWh produced by the Community Solar facility shall be combined with the kWh delivered by the member's distributed generation facility.
 - (a) If the member's combined energy production is greater than the member's energy consumption during the monthly billing period, Chugach shall credit the member's account with an amount derived by multiplying the kWh of net subscribed energy produced by the non-firm buyback power rate contained on Tariff Sheet No. 103; or,
 - (b) If the member's combined energy production is less than the member's energy consumption during the monthly billing period, Chugach shall bill the consumer for the kWh of net electric energy consumption at the applicable retail rates contained in the operating tariff.

Dollar amounts credited to the member's account shall be used to reduce amounts owed by the member in subsequent monthly billing periods. Dollar amounts credited do not expire or otherwise revert to Chugach. Unused credits will be paid to the member in the event electric service is terminated.

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RCA No. 121

Original

Sheet No. 104.3



Canceling

Sheet No. 104.3

Chugach Electric Association, Inc.

COMMUNITY SOLAR SERVICE PRICING PILOT (Continued)

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Conditions:

- 1) The initial subscription period is a minimum 12-month term subject to the early cancellation fee and prohibition on reenrollment discussed below.
- 2) Subscriptions shall remain in effect until:
 - a. Cancelled by the member through the Chugach online member service portal, or by phone with, or in writing to, Chugach member services; or
 - b. the member breaches or fails to satisfy or follow any term or condition of Chugach's tariff; or,
 - c. the community solar service is terminated.
- 3) A member who elects to cancel their subscription prior to completion of the 12-month enrollment period will be charged an early cancellation fee. The early cancellation fee shall be equal to the lower of; a) a charge equal to the combined total subscription charges for the remaining months in the 12-month subscription period, or b) a charge equivalent to the combined total subscription charges for four months service. Members who elect to unenroll prior to completion of the 12-month minimum enrollment period are prohibited from re-enrolling for a period of 12-months.
- 4) If the member is concurrently participating in the net metering program, as provided on in this operating tariff, the member's onsite net metered generation capacity combined with the member's subscribed share of the Community Solar facility installed capacity shall not exceed 25 kW.
- 5) Participating members pay a service fee in exchange for a portion of the Chugach-owned community solar facility's kWh energy output. Participants receive this solar-generated electricity as a service from Chugach; they do not own the community solar project or any portion thereof.
- 6) The program is portable for members moving within Chugach's service territory.
- 7) Participating members must remain current in their payment of bills as required in the operating tariff. If this is prior to the 12-month minimum period, the early cancellation fee will apply. Pre-paid members delinquent on their electric bill payments are subject to the termination of one or more of their blocks. If a pre-paid subscription is terminated, the proceeds from the applicable sell-back credit will be applied to the member's past due balance and other fees accrued and the remaining amount, if any, will be paid to the member.
- 8) Chugach makes no warranty or representation, express or implied, as to the energy production of or energy credits available from the community solar facility. Solar energy credits will vary significantly from month to month based on seasonal solar intensity, weather and other conditions.
- 9) The solar facility may become subject to physical damage, equipment failure, or other events that may degrade the facility's efficiency. Chugach shall be under no obligation to issue any refund or credit to participating members based on the efficiency or output of the solar facility. In no event shall a refund or credit be issued if the solar facility performance is degraded as a result of a *force majeure* event.

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RCA No. 121

Original

Sheet No. 104.4



Canceling

Sheet No. 104.4

Chugach Electric Association, Inc.

COMMUNITY SOLAR SERVICE PRICING PILOT (Continued)

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Conditions (continued):

- 10) Receipt of energy credits pursuant to this tariff may result in taxable income to a subscriber, and each subscriber is solely responsible for determination, payment and reporting with respect to such subscriber's taxes.
- 11) Chugach reserves the right to adjust rates upward or downward, if necessary, if system conditions change or unforeseen costs or benefits arise. Any change would not affect amounts paid prior to the change for monthly subscriptions. Chugach further reserves the right to adjust the rates for costs associated with the integration of the energy produced by the solar facility into the Chugach system.
- 12) The community solar program is a voluntary means to participate in a renewable energy program through enrollment which includes a commitment to pay the subscription price. Participating members acknowledge that the subscription payment and the energy production associated with the subscription may result in a higher cost per kWh than the cost per kWh from other generation sources. Chugach has made no warranty or representation, express or implied, that participating members may or will derive an economic benefit from its subscription. Participating members further acknowledge that Chugach makes no warranty or representation, express or implied, regarding the efficiency of the solar facility, or the amount of production credit, if any, that the participating member will receive during any billing period during the term.
- 13) Each subscribing member represents and warrants that he or she is (a) subscribing to the community solar program solely to receive energy credits as described in this tariff, not for investment or speculation, not with a profit expectation, and not with a view to the resale of any credit or other benefits and (b) aware that he or she does not have an interest in the solar facility.
- 14) Chugach makes no warranty or representation, express or implied, concerning the applicability or inapplicability of any federal or state securities laws on or in relation to the community solar program.

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Exhibit 1

Chugach Electric Association, Inc.
Anchorage, Alaska

Community Solar Project
Project Construction and Interconnection Cost Estimate
Exhibit 1

Description	Total
Solar Panel Cost	
Purchase and Installation of Solar Panels	\$1,296,000
Subtotal Solar Panel	\$1,296,000
Interconnection	
Communications	\$33,974
Chugach Scope Medium Voltage	\$265,040
Civil: Trenching and Backfill	\$145,504
Other: Design Cost and Contractor RFP)	\$165,200
Subtotal Interconnection	\$609,718
Construction	
General Contractor	\$61,582
General Requirement	\$41,054
Contingency	\$285,858
Inflation Adjustment	\$61,492
Construction Bond	\$24,597
Subtotal Construction	\$474,582
Project Management Cost	
Chugach Construction Manager	\$60,000
Overhead on Chugach Labor	\$21,000
Interest During Construction (6 mo.)	\$68,315
Subtotal Project Management	\$149,315
Total Project Construction Cost	\$2,529,614
Billing System Interconnection Cost	
Community Solar Program Billing System Modification	\$207,000
Total Estimated Project Construction and Interconnection Cost	\$2,736,614

Exhibit 2

Chugach Electric Association, Inc.
Anchorage, Alaska

Community Solar Program
Total Project Expense Net Present Value (25 Year)
Exhibit 2(a): Expense Summary (NPV)

Description	Total (NPV)
Operating Expense	\$617,102
Depreciation	\$1,653,664
Interest Expense	\$1,228,539
Margin	\$921,404
Total	\$4,420,709
Project Expense (NPV)	\$4,420,709
Number of Panels	1,280
Expense per Panel (NPV)	\$3,454

Chugach Electric Association, Inc.
Anchorage, Alaska

Community Solar Program
Total Project Expense Net Present Value (25 Year)
Exhibit 2(b): Expense Detail for Year's 1 through 25

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
Operating Expense	\$25,785	\$26,932	\$27,525	\$28,130	\$56,623	\$29,381	\$30,028	\$30,688	\$31,364	\$69,347	\$32,759	\$33,479
Depreciation	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465
Interest Expense	\$118,222	\$115,503	\$112,667	\$109,709	\$106,622	\$103,403	\$100,044	\$96,540	\$92,885	\$89,072	\$85,094	\$80,945
Margin	\$88,666	\$86,627	\$84,500	\$82,282	\$79,967	\$77,552	\$75,033	\$72,405	\$69,664	\$66,804	\$63,821	\$60,708
Total	\$342,138	\$338,527	\$334,157	\$329,585	\$352,677	\$319,801	\$314,570	\$309,098	\$303,378	\$334,688	\$291,139	\$284,597
Project Expense	\$342,138	\$338,527	\$334,157	\$329,585	\$352,677	\$319,801	\$314,570	\$309,098	\$303,378	\$334,688	\$291,139	\$284,597
Number of Panels	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280
Expense per Panel	\$267	\$264	\$261	\$257	\$276	\$250	\$246	\$241	\$237	\$261	\$227	\$222

Description	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25
Operating Expense	\$34,216	\$34,969	\$105,038	\$36,524	\$37,328	\$38,149	\$38,988	\$86,206	\$40,723	\$41,619	\$42,534	\$43,470	\$87,500
Depreciation	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465	\$109,465
Interest Expense	\$76,616	\$72,100	\$67,389	\$62,474	\$57,348	\$51,999	\$46,420	\$40,600	\$34,528	\$28,194	\$21,586	\$14,693	\$7,502
Margin	\$57,462	\$54,075	\$50,542	\$46,856	\$43,011	\$38,999	\$34,815	\$30,450	\$25,896	\$21,145	\$16,189	\$11,019	\$5,626
Total	\$277,758	\$270,608	\$332,433	\$255,319	\$247,151	\$238,612	\$229,687	\$266,720	\$210,611	\$200,422	\$189,774	\$178,647	\$210,092
Project Expense	\$277,758	\$270,608	\$332,433	\$255,319	\$247,151	\$238,612	\$229,687	\$266,720	\$210,611	\$200,422	\$189,774	\$178,647	\$210,092
Number of Panels	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280	1,280
Expense per Panel	\$217	\$211	\$260	\$199	\$193	\$186	\$179	\$208	\$165	\$157	\$148	\$140	\$164

Chugach Electric Association, Inc.
Anchorage, Alaska

Community Solar Program
Total Project Expense Net Present Value (25 Year)
Exhibit 2(c): Inflation Adjusted Operating Expense

Net Present Value:	\$617,102
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Period	Annual	Periodic	Total O&M	Inflation Adjusted
1	\$25,785		\$25,785	\$25,785
2	\$25,785		\$25,785	\$26,932
3	\$25,785		\$25,785	\$27,525
4	\$25,785		\$25,785	\$28,130
5	\$25,785	\$25,000	\$50,785	\$56,623
6	\$25,785		\$25,785	\$29,381
7	\$25,785		\$25,785	\$30,028
8	\$25,785		\$25,785	\$30,688
9	\$25,785		\$25,785	\$31,364
10	\$25,785	\$30,000	\$55,785	\$69,347
11	\$25,785		\$25,785	\$32,759
12	\$25,785		\$25,785	\$33,479
13	\$25,785		\$25,785	\$34,216
14	\$25,785		\$25,785	\$34,969
15	\$25,785	\$50,000	\$75,785	\$105,038
16	\$25,785		\$25,785	\$36,524
17	\$25,785		\$25,785	\$37,328
18	\$25,785		\$25,785	\$38,149
19	\$25,785		\$25,785	\$38,988
20	\$25,785	\$30,000	\$55,785	\$86,206
21	\$25,785		\$25,785	\$40,723
22	\$25,785		\$25,785	\$41,619
23	\$25,785		\$25,785	\$42,534
24	\$25,785		\$25,785	\$43,470
25	\$25,785	\$25,000	\$50,785	\$87,500
Total	\$644,625	\$160,000	\$804,625	\$1,089,305

Chugach Electric Association, Inc.
Anchorage, Alaska

Community Solar Program
Total Project Expense Net Present Value (25 Year)
Exhibit 2(d): Depreciation Expense

Period	Beginning Balance	Depreciation Expense	Ending Balance
1	\$2,736,614	\$109,465	\$2,627,150
2	\$2,627,150	\$109,465	\$2,517,685
3	\$2,517,685	\$109,465	\$2,408,221
4	\$2,408,221	\$109,465	\$2,298,756
5	\$2,298,756	\$109,465	\$2,189,292
6	\$2,189,292	\$109,465	\$2,079,827
7	\$2,079,827	\$109,465	\$1,970,362
8	\$1,970,362	\$109,465	\$1,860,898
9	\$1,860,898	\$109,465	\$1,751,433
10	\$1,751,433	\$109,465	\$1,641,969
11	\$1,641,969	\$109,465	\$1,532,504
12	\$1,532,504	\$109,465	\$1,423,040
13	\$1,423,040	\$109,465	\$1,313,575
14	\$1,313,575	\$109,465	\$1,204,110
15	\$1,204,110	\$109,465	\$1,094,646
16	\$1,094,646	\$109,465	\$985,181
17	\$985,181	\$109,465	\$875,717
18	\$875,717	\$109,465	\$766,252
19	\$766,252	\$109,465	\$656,787
20	\$656,787	\$109,465	\$547,323
21	\$547,323	\$109,465	\$437,858
22	\$437,858	\$109,465	\$328,394
23	\$328,394	\$109,465	\$218,929
24	\$218,929	\$109,465	\$109,465
25	\$109,465	\$109,465	\$0

Chugach Electric Association, Inc.
Anchorage, Alaska

Community Solar Program
Total Project Expense Net Present Value (25 Year)
Exhibit 2(e): Calculation of Interest Expense and Margin

NPV:		\$1,228,539				\$675,697
Period	Beginning Balance	Payment	Interest	Principal	Ending Balance	Margin
1	\$2,736,614	\$181,151	\$118,222	\$62,929	\$2,673,686	\$65,022
2	\$2,673,686	\$181,151	\$115,503	\$65,647	\$2,608,038	\$63,527
3	\$2,608,038	\$181,151	\$112,667	\$68,483	\$2,539,555	\$61,967
4	\$2,539,555	\$181,151	\$109,709	\$71,442	\$2,468,113	\$60,340
5	\$2,468,113	\$181,151	\$106,622	\$74,528	\$2,393,584	\$58,642
6	\$2,393,584	\$181,151	\$103,403	\$77,748	\$2,315,836	\$56,872
7	\$2,315,836	\$181,151	\$100,044	\$81,107	\$2,234,730	\$55,024
8	\$2,234,730	\$181,151	\$96,540	\$84,610	\$2,150,120	\$53,097
9	\$2,150,120	\$181,151	\$92,885	\$88,266	\$2,061,854	\$51,087
10	\$2,061,854	\$181,151	\$89,072	\$92,079	\$1,969,775	\$48,990
11	\$1,969,775	\$181,151	\$85,094	\$96,056	\$1,873,719	\$46,802
12	\$1,873,719	\$181,151	\$80,945	\$100,206	\$1,773,513	\$44,520
13	\$1,773,513	\$181,151	\$76,616	\$104,535	\$1,668,978	\$42,139
14	\$1,668,978	\$181,151	\$72,100	\$109,051	\$1,559,927	\$39,655
15	\$1,559,927	\$181,151	\$67,389	\$113,762	\$1,446,165	\$37,064
16	\$1,446,165	\$181,151	\$62,474	\$118,676	\$1,327,489	\$34,361
17	\$1,327,489	\$181,151	\$57,348	\$123,803	\$1,203,686	\$31,541
18	\$1,203,686	\$181,151	\$51,999	\$129,151	\$1,074,534	\$28,600
19	\$1,074,534	\$181,151	\$46,420	\$134,731	\$939,803	\$25,531
20	\$939,803	\$181,151	\$40,600	\$140,551	\$799,252	\$22,330
21	\$799,252	\$181,151	\$34,528	\$146,623	\$652,629	\$18,990
22	\$652,629	\$181,151	\$28,194	\$152,957	\$499,672	\$15,506
23	\$499,672	\$181,151	\$21,586	\$159,565	\$340,107	\$11,872
24	\$340,107	\$181,151	\$14,693	\$166,458	\$173,649	\$8,081
25	\$173,649	\$181,151	\$7,502	\$173,649	\$0	\$4,126

Exhibit 3

Chugach Electric Association, Inc.
Anchorage, Alaska

Community Solar Program
Pilot Period Pricing

Exhibit 3: Example Pilot Price Determination for Year's 1 and 2

Description	Year 1	Year 2	Year 3
Project Expense	\$342,138	\$338,527	\$334,157
Number of Panels	1,280	1,280	1,280
Expense per Panel	\$267	\$264	\$261
Annual Subscription Price (per Panel)	\$267	\$264	\$261
Balance Carry-Forward Adjustment	\$0	\$8	(\$10)
Pilot Period Price	\$267	\$272	\$251
Monthly Charge	\$22.27	\$22.71	
Balance Account (BOP)	\$0	\$8	(\$10)
Actual Period			
Debit (Expense)	\$275	\$249	
Credit (Recovery)	\$267	\$272	
Actual Period Net Activity	\$8	(\$23)	\$0
Projected Period			
Debit (Expense)	\$264	\$264	
Credit (Recovery)	\$264	\$259	
Projected Period Net Activity	\$0	\$5	
Balance Account (EOP)	\$8	(\$10)	(\$10)
(Over) / Under			

ATTACHMENT 1

RESOLUTION

Community Solar Project

WHEREAS, Chugach Electric Association, Inc. (Chugach) adopted sustainability or triple bottom line as a core business philosophy by which financial, environmental, and social measures are expressly considered in overall business performance;

WHEREAS, Chugach has established a decarbonization goal to reduce its carbon intensity by at least 35% by 2030 and by at least 50% by 2040, using 2012 as a baseline year without a negative material impact on Chugach members' rates;

WHEREAS, new renewable energy resources are desirable to diversify Chugach's generation supply and to advance Chugach's decarbonization goal;

WHEREAS, a recent poll indicates that approximately 83 percent of Chugach's members favor solar energy and 45 percent support receiving more renewable energy even if it means their rates will increase;

WHEREAS, Chugach developed its 500 kW Community Solar Project (Project) to satisfy member interest, promote Chugach's core business philosophy of sustainability, and continue moving towards achieving its decarbonization goal;

WHEREAS, Chugach estimates that design and construction of the Project will cost approximately \$2,800,000 without application of the federal Investment Tax Credit, or between \$1,700,000 to \$1,900,000 after application of the Investment Tax Credit after commercial operation of the project; and

WHEREAS, Chugach believes that the benefits discussed above support moving forward with the Project and requesting approval from the Regulatory Commission of Alaska (Commission) for inclusion of the Project program in Chugach's operating tariff.

NOW THEREFORE BE IT RESOLVED, that the Chief Executive Officer be, and hereby is, authorized to spend up to \$2,800,000 on execution and completion of the Project;

BE IT FURTHER RESOLVED, that the Chief Executive Officer be, and hereby is, authorized and empowered to file the Project program with the Commission for inclusion in Chugach's operating tariff; and

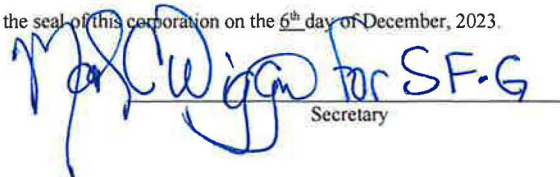


BE IT FINALLY RESOLVED, that the Chief Executive Officer be, and hereby is, authorized and empowered to take all such further action and to execute and deliver all such further agreements, certificates, instruments, contracts, purchase orders, and other documents and agreements, in the name and on behalf of Chugach; to pay or cause to be paid all expenses; to take all such other actions as they shall deem necessary, desirable, advisable, or appropriate to consummate, effectuate, carry out, or further the foregoing resolutions.

CERTIFICATION

I, Susanne Fleek-Green, do hereby certify that I am the Secretary of Chugach Electric Association, Inc., an electric non-profit cooperative membership corporation organized and existing under the laws of the State of Alaska: that the foregoing is a complete and correct copy of a resolution adopted at a meeting of the Board of Directors of this corporation, duly and properly called and held on the 6th day of December, 2023; that a quorum was present at the meeting; that the resolution is set forth in the minutes of the meeting and has not been rescinded or modified.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed the seal of this corporation on the 6th day of December, 2023.

A handwritten signature in blue ink, appearing to read "Susanne Fleek-Green", is written over a horizontal line. To the right of the signature, the word "Secretary" is printed in a small, black, sans-serif font.

ATTACHMENT 2

Chugach Electric Association, Inc.
Anchorage, Alaska

Community Solar Project
Annual Energy Production Total Project at Delivery and per Panel
Attachment 2: Estimated Energy Production

Year	Total Project Production (kWh)			Per Panel (kWh)	
	Generation	Line Loss	Net Generation	Annual	Monthly
1	527,682	15,498	512,184	400	33
2	522,405	15,343	507,062	396	33
3	517,181	15,190	501,992	392	33
4	512,009	15,038	496,972	388	32
5	506,889	14,887	492,002	384	32
6	501,820	14,738	487,082	381	32
7	496,802	14,591	482,211	377	31
8	491,834	14,445	477,389	373	31
9	486,916	14,301	472,615	369	31
10	482,047	14,158	467,889	366	30
11	477,226	14,016	463,210	362	30
12	472,454	13,876	458,578	358	30
13	467,729	13,737	453,992	355	30
14	463,052	13,600	449,452	351	29
15	458,422	13,464	444,958	348	29
16	453,837	13,329	440,508	344	29
17	449,299	13,196	436,103	341	28
18	444,806	13,064	431,742	337	28
19	440,358	12,933	427,425	334	28
20	435,954	12,804	423,150	331	28
21	431,595	12,676	418,919	327	27
22	427,279	12,549	414,730	324	27
23	423,006	12,424	410,582	321	27
24	418,776	12,299	406,477	318	26
25	414,588	12,176	402,412	314	26
Total	11,723,967	344,333	11,379,634	8,890	741

ATTACHMENT 3

North CEA RFP 2023, 800 E 94th Anchorage, AK

☑ Shading Heatmap



☐ Shading by Field Segment

Description	Tilt	Azimuth	Modules	Nameplate	Shaded Irradiance	AC Energy	TOF ²	Solar Access	Avg TSRF ²
North Option	30.0°	180.0°	1,280	576.0 kWp	1,052.3kWh/m ²	513.7 MWh ¹	97.6%	95.4%	93.1%
Totals, weighted by kWp			1,280	576.0 kWp	1,052.3kWh/m ²	513.7 MWh	97.6%	95.4%	93.1%

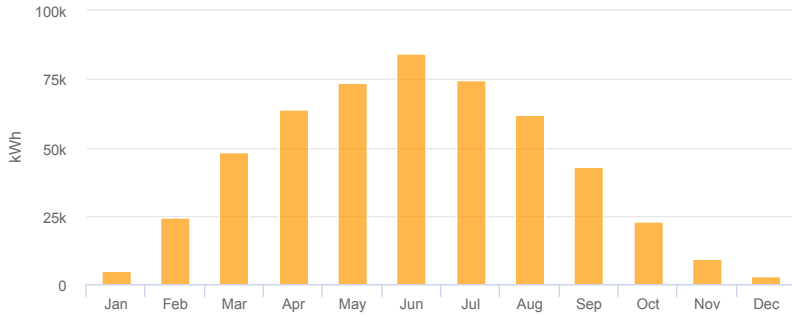
¹ approximate, varies based on inverter performance

² based on location Optimal POA Irradiance of 1,130.1kWh/m² at 45.9° tilt and 185.6° azimuth

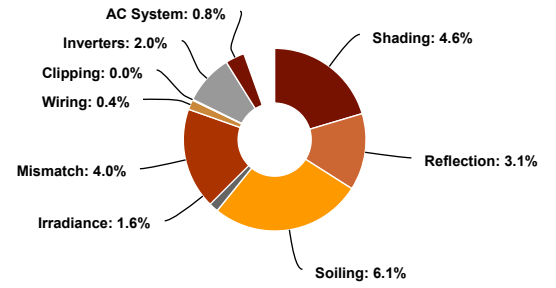
☐ Solar Access by Month

Description	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
North Option	71%	87%	97%	98%	97%	98%	97%	97%	97%	96%	68%	70%
Solar Access, weighted by kWp	71.2%	87.2%	97.4%	97.6%	97.4%	97.5%	97.4%	97.3%	97.3%	96.1%	68.0%	69.9%
AC Power (kWh)	5,018.6	24,520.2	48,070.2	64,075.9	73,656.3	84,230.9	74,407.9	62,178.1	42,860.7	22,727.3	9,077.3	2,893.8

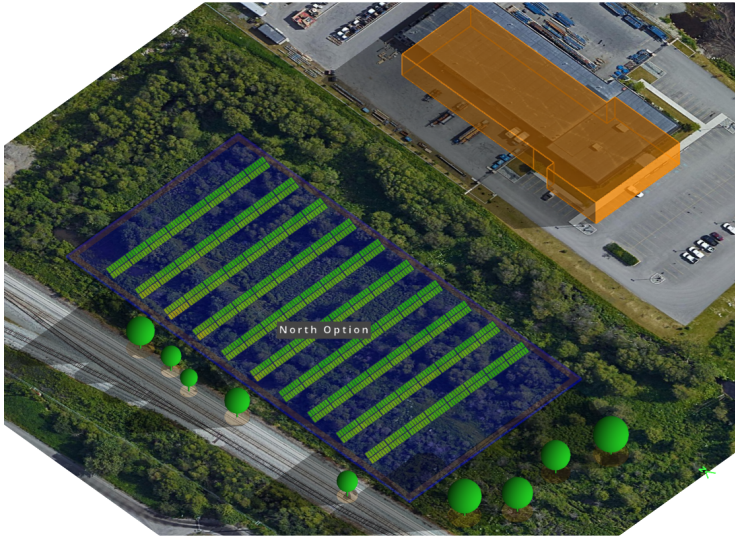
Monthly Production



Sources of System Loss



Southwestern Angle



Southeastern Angle

